a plurality of electrophoretic probes each comprising target-binding moiety specific for a target compound, each target-binding moiety having one or more eTag reporters attached thereto by cleavable linkages such that upon cleavage of the cleavable linkages the eTag reporters from different electrophoretic probes form distinct peaks upon electrophoretic separation; and

a second reagent specific for at least one of said one or more target compounds, the second reagent being capable of generating an active species to cleave the cleavable linkage, the active species being selected from the group consisting of singlet oxygen, hydrogen peroxide, NADH, and hydroxyl radicals.

13. (Amended) The kit according to claim 5 wherein said electrophoretic probes are selected from the group defined by the formula:

$$[(D, M)\text{-}L]_k\text{-}T$$

wherein:

T is a target-binding moiety specific for a target compound;

k is an integer in the range of from 1 to 20;

L is said cleavable linkage;

D is a detection group; and

M is a mobility modifier consisting of from 1 to 500 atoms selected from the group consisting of carbon, hydrogen, oxygen, sulfur, nitrogen, phosphorus, and boron.

17. (Amended) The kit of claim 16 wherein said target-binding moiety and said second reagent are each a monoclonal antibody or a polyclonal antibody; and wherein k is in the range of from 1 to 3.

19. (Amended) A kit of specific binding pairs for detecting the presence or absence of one or more target compounds, the kit comprising a plurality of pairs of first reagents and second reagents, the first reagent and second reagent of each pair being specific for the same target compound, the first reagent of each pair being selected from the group defined by the formula:

$$[(D, M)\text{-}L]_k\text{-}T$$

wherein:

T is a target-binding moiety specific for a target compound,

k is an integer in the range of from 1 to 20,

L is a cleavable linkage,

D is a detection group, and

M is a mobility modifier consisting of from 1 to 500 atoms selected from the group consisting of carbon, hydrogen, oxygen, sulfur, nitrogen, phosphorus, and boron,

wherein upon cleavage of L an eTag reporter comprising a detection group, D, and a mobility modifier, M, is produced with a distinct charge/mass ratio so that eTag reporters of different electrophoretic probes form distinct peaks upon electrophoretic separation; and

the second reagent of each pair being capable of generating an active species to cleave the cleavable linkage, the active species being selected from the group consisting of singlet oxygen, hydrogen peroxide, NADH, and hydrogen radicals.

20. (Amended) The kit of specific binding pairs of claim 19 wherein said plurality is in the range of from 5 to 100, and wherein M is a mobility modifier consisting of from 1 to 300 atoms selected from the group consisting of carbon, hydrogen, oxygen, phosphorus, nitrogen, sulfur, and boron.

21. (Amended) The kit of specific binding pairs of claim 20 wherein said cleavable linkage is selected from the group consisting of olefins, thioethers, sulfoxides, and selenium analogs of thioethers or sulfoxides.

22. (Amended) The kit of specific binding pairs of claim 21 wherein said detection group is a fluorescent label, and wherein said charge/mass ratio is in the range from -.001 to 0.5.

23. (Amended) The kit of specific binding pairs of claim 22 wherein said target-binding moiety is a monoclonal antibody or a polyclonal antibody, and wherein k is in the range of from 1 to 3.

24. (Amended) The kit of specific binding pairs according to claims 19, 20, 21, 22, or 23 wherein said second reagent is a monoclonal antibody or a polyclonal antibody, and wherein said active species is singlet oxygen.